

REMARKS

Claims 1-3, 6-16 and 20 are rejected. Claims 4, 5 and 17-19 are objected to. Claims 1, 10, and 14-16 are amended. New claim 21 is added. No new matter is added. Claims 1-21 are pending. Reconsideration and allowance of the pending claims is respectfully requested.

Allowable Subject Matter

Applicant thanks the Examiner for indicating that claims 4, 5 and 17-19 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Telephone Interview

A telephone interview was conducted with the Examiner by Celia Dunham on February 22, 2005 as summarized below:

With respect to claim 1, claim 1 is amended to recite that the soft element is "located between at least one of the at least two semiconductor chips and the mold resin." The Examiner indicated that amended claim 1 seems to overcome the rejection based on Hikita and may be allowable.

With respect to claims 2 and 3, Hikita discloses that the inner package 26 formed of an epoxy resin mixed with a filler and the Examiner stated that the curing and drying process of the epoxy resin mixed with a filler appears to suggest that the inner package 26 may be hardened.

With respect to claim 10, amendment to distinguish over Hikita was discussed.

With respect to claim 14, claim 14 is amended to clarify that the soft element is formed on a side surface of the at least one of the at least two semiconductor chips. The Examiner indicated that amended claim 14 seems to overcome the rejection based on Hikita and may be allowable.

Claim Rejections – 35 U.S.C. § 102

Claims 1-3, 6, 7, 10-16 and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Hikita et al. (US 6,133,637). Applicants respectfully traverse the rejections.

Claim 1 is amended hereby to clarify that the soft element is disposed between at least one of the semiconductor chips and the mold resin. None of the prior art discloses the invention as disclosed in amended claim 1. Support for the amendment is found in the original application, among other places, at FIGS. 4A-9B; page 4, lines 7-10.

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Hikita merely discloses a *synthetic-resin adhesive 18* filled *between the IC main chip 14 and the IC sub-chip 16*, not "between at least one of the at least two semiconductor chips and the mold resin," as recited in claim 1. Hikita, col. 5, lines 24-26; FIGS. 4-6. Thus, the rejection does not present a *prima facie* case of anticipation. Accordingly, applicant respectfully requests the allowance of claim 1.

Claims 2 and 3 remain in their original forms. None of the prior art discloses the invention as disclosed in claims 2 and 3. Contrary to the Examiner's statement that all elements are disclosed in the Hikita reference, it does not teach or disclose, "the soft element that contacts substantially the entire surface of at least one side of the at least one of the at least two semiconductor chips (claim 2) and the soft element that contacts a portion (claim 3) of at least one side of the at least one of the at least two semiconductor chips.

The claimed invention comprises a soft element that is more elastic and flexible than the mold resin. Specification, page 4, lines 11-12; claim 1. As explained in the original application, although both the soft element and the mold resin are made of an epoxy resin, since the epoxy resin for the mold resin is mixed with an additive such as a filler, the mold resin has a low thermal expansion coefficient and a hard strength. Specification on page 4, lines 11-18. Although it is not explicitly stated in the specification, one skilled in the art will appreciate that the soft element of the present invention is not mixed with a filler upon reading the above statements.

For these reasons, Hikita not only does not disclose the soft element of the claimed invention, Hikita actually teaches away from the soft element of the claimed invention. Contrary to the soft element of the claimed invention which comprises an epoxy resin without a filler, Hikita discloses *an inner package 26* formed of a synthetic resin such as an *epoxy resin mixed with a filler* to increase its moisture resistance. Hikita, col. 6, lines 25-29; FIG. 9. Moreover, the curing and setting process of Hikita's inner package 26 suggest that the inner package 26 may be hardened. Thus, Hikita does not teach or disclose the claimed invention recited in claim 2 or claim 3.

Claims 6 and 7, dependent on amended independent claim 1, remain in their original forms. As discussed above, Hikita fails to disclose each and every element of amended independent claim 1 and, thus fails to disclose each and every element of dependent claims 6 and 7. For at least these reasons, Applicants submit that claims 6 and 7 are allowable over Hikita and respectfully request their allowance.

Claim 10 is amended hereby to recite that the device comprises a soft element formed on a surface of the chips *but not on the surfaces between the semiconductor chips*. Support

for the amendment is found in the original application, among other places, at FIGS. 4A-9B; page 3, line 31 to page 4, lines 1-4; page 4, lines 7-10.

None of the prior art discloses the invention as disclosed in amended claim 10. Hikita discloses a *synthetic-resin adhesive 18* such as an epoxy resin, or elastomer filled *between the IC main chip 14 and the IC sub-chip 16*. Hikita, col. 5, lines 24-26; FIGS. 4-6. Hikita further discloses *an inner package 26* formed of a synthetic resin such as an *epoxy resin mixed with a filler* to increase its moisture resistance. Hikita, col. 6, lines 25-27; FIG. 9. Thus, the rejection is unsupported by the art and should be withdrawn.

Claims 11-13, dependent on amended independent claim 10, remain in their original forms. As discussed above, Hikita fails to disclose each and every element of amended independent claim 10 and, thus fails to disclose each and every element of dependent claims 11-13. For at least these reasons, Applicants submit that claims 11-13 are allowable over Hikita and respectfully request their allowance.

Claim 14 is amended to recite that the method comprises forming a soft element on at least one *side surface* of at least one of the at least two semiconductor *chips having upper, lower, and side surfaces*. None of the prior art discloses the invention as disclosed in claim 14. Support for the amendment is found in the original application, among other places, at FIGS. 4A-9B; page 4, lines 7-10.

Contrary to the Examiner's statement that all elements are disclosed in the Hikita reference, forming a soft element on at least one side surface of the at least one of the at least two semiconductor chips is not. Hikita discloses forming an inner package 26 of a synthetic resin such as an *epoxy resin mixed with a filler* to increase its moisture resistance. Hikita, col. 6, lines 25-27; FIG. 9. As discussed above, Applicants submit that the Hikita's inner package 26 does not disclose the soft element of the claimed invention formed on at least one side of at least one of the at least two chips. Thus, the rejection is unsupported by the art and should be withdrawn.

Claims 15 and 16, dependent on amended independent claim 14, are amended to recite that the method comprises forming the soft element on the entire surface (claim 15) or on a portion (claim 16) of the at least one *side surface*. As discussed above, Hikita fails to disclose each and every element of amended independent claim 14 and, thus fails to disclose each and every element of dependent claims 15 and 16. For at least these reasons, Applicants submit that claims 15 and 16 are allowable over Hikita and respectfully request their allowance.

Claim 20, dependent on amended independent claim 14, remains in its original form. As discussed above, Hikita fails to disclose each and every element of amended independent claim 14. Thus, the rejection is unsupported by the art and should be withdrawn.

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claim 14 and, thus fails to disclose each and every element of dependent claim 20. For at least these reasons, Applicants submit that claim 20 is allowable over Hikita and respectfully request allowance.

Claim Rejections – 35 U.S.C. § 103

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hikita et al. (US 6,133,637) as applied to claim 1 above, and further in view of Derderian (US6,569,709 B2). Applicants respectfully traverse the rejections.


Claims 8 and 9 depend from amended independent claim 1. As discussed above, Hikita fails to disclose each and every element of amended independent claim 1. Thus, a combination of Hikita and Derderian continues to fail to disclose each and every element of amended independent claim 1 and, thus, fails to disclose each and every element of dependent claims 8 and 9. For at least these reasons, Applicants submit that claims 8 and 9 are allowable over Hikita in view of Derderian and respectfully requests their allowance.

CONCLUSION

For the foregoing reasons, reconsideration and allowance of claims 1-22 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,
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Limited Recognition Under 37 CFR § 10.9 (b)

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